

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
30 June 2005 (30.06.2005)

PCT

(10) International Publication Number
WO 2005/059432 A1

(51) International Patent Classification⁷: F17C 6/00, 9/00,
13/00, B63B 13/00, 22/02, 25/12, 25/16, 27/26, B67D 5/36

9 Rue Montée St. Michel, F-06360 Eze (FR). OOMEN,
Hein [NL/FR]; 14 Rue Rossini, F-06000 Nice (FR).

(21) International Application Number:
PCT/NL2004/000875

(74) Agent: VAN WESTENBRUGGE, Andries et al.; Nederlandsch Octroobureau, Scheveningseweg 82, P.O. Box 29720, NL-2502 LS The Hague (NL).

(22) International Filing Date:
16 December 2004 (16.12.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03079118.0 18 December 2003 (18.12.2003) EP

(71) Applicant (for all designated States except US): SINGLE BUOY MOORINGS INC. [CH/CH]; 5, route de Fribourg, CH-1723 Marly (CH).

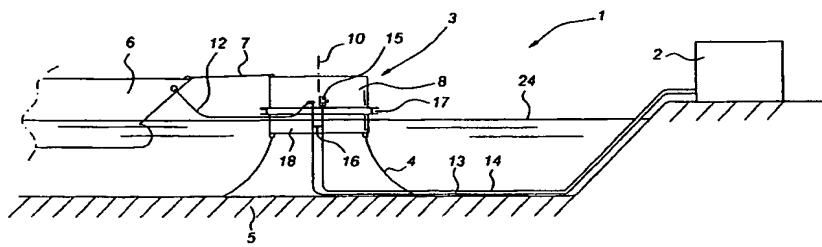
(72) Inventors; and

(75) Inventors/Applicants (for US only): POLDERVERAART, Leendert [NL/MC]; 2, Impasse du Castelleretto, MC-98000 Monaco (MC). WILLE, Hein [NL/FR];

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: TRANSFER SYSTEM AND METHOD FOR TRANSFERRING A CRYOGENIC FLUID FROM AN ONSHORE UNIT TO A SHIP BY MEANS OF A BUOY COMPRISING A REEL FOR A FLEXIBLE HOSE AND WHICH LEVEL IN THE WATER CAN BE CHANGED



WO 2005/059432 A1

(57) Abstract: The invention relates to a cryogenic transfer system (1) comprising: a cryogenic fluid storage and/or processing structure (2), an off shore loading and/or offloading structure (3, 30, 40) comprising a base (18, 41) and a reel means (17) rotatable relative to said base around an axis (10), a transfer duct (13, 14) extending from the fluid storage and/or processing structure (2) to the loading and/or offloading structure (3, 30, 40), a flexible hose (12) windable around the reel means (17), connectable with a first end (20) to the duct (13, 14), and with a second end (23) connectable to a floating structure (6). The invention is characterised in that: The transfer duct comprises a first and a second duct (13, 14), each duct having an end part (22, 22') at or near the loading and/or offloading structure (3, 30, 40), the flexible hose (12) being with the first end (20) connectable to the end part (22) of at least the first or the second duct. In a cooling configuration, the flexible hose (12) being wound on the reel means (17), the reel means being situated above water level (24) and rotatable around a vertical axis (10), an interconnecting duct section (12, 16) extending between the end parts (22, 22') of the first and second ducts (13, 14). In a transfer configuration the flexible hose (12) being at least partly unwound from the reel means (17) and being with a second end (23) connectable to the floating structure (6). The loading and/or offloading structure (3, 30, 40) comprising lifting means (36, 43, 58, 59) for lowering the flexible hose (12) towards water level (24) in the transfer configuration and for raising the hose (12) away from water level for placing the flexible hose in the cooling configuration.



Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.